

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE



Applicant: T. S. Ramakrishnan et al.

Group Art Unit: 2125

Serial No.: 09/705,674

Examiner: S.R. Garland

Filed: 03 NOV 2000

Attorney Docket: SDR-059 (60.1421)

Title: METHODS AND APPARATUS FOR REMOTE REAL TIME OIL FIELD MANAGEMENT

I hereby certify that this correspondence is being deposited on this day with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, Alexandria, VA 22313-1450.

*David P. Gordon*

*Oct 26, 2004*

David P. Gordon

Date

Honorable Commissioner for Patents  
Alexandria, VA 22313

Sir:

DECLARATION OF DAVID P. GORDON UNDER 37 C.F.R. §1.132

I, David P. Gordon, hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

I am an attorney of record in the instant application. On May 4, 2000, I received a letter dated May 2, 2000 from the Applicant enclosing a Patent Memorandum dated April 12, 2000 which supports the specification and claims of the above-referenced Serial No.

09/705,674. The letter and patent memorandum were previously submitted attached to another declaration by me.

From May 4, 2000 until on or about August 17, 2000, our office had a backlog of unrelated cases which were taken up in chronological order generally before this case could be handled. Starting on or about August 17, 2000, a draft patent application based on the Patent Memorandum was prepared and completed on September 7, 2000 at which time it was forwarded to the patent department of the assignee of this application.

Given that this application has multiple inventors who frequently travel to different locations throughout the world and that the application drafts are reviewed by in house patent counsel as well as the inventors, it is not unusual for a first draft review to take six to eight weeks. Comments on the first draft were received on October 25, 2000. A second draft was prepared and comments on the second draft were received on October 31, 2000. The application was filed on November 3, 2000.

Date: October 26, 2004

  
\_\_\_\_\_  
David P. Gordon



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: T. S. Ramakrishnan et al.

Group Art Unit: 2125

Serial No.: 09/705,674

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Filed: 03 NOV 2000

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Title: METHODS AND APPARATUS FOR REMOTE REAL TIME OIL FIELD  
MANAGEMENT

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*David P. Gordon*

*Oct 26, 2004*

David P. Gordon

Date

Honorable Commissioner for Patents  
Alexandria, VA 22313

Sir:

DECLARATION OF THE INVENTORS UNDER 37 C.F.R. §1.131

We, Terizhandur S. Ramakrishnan, Raj Kumar Michael Thambynayagam, Peter  
Gerhard Tilke, and Bhavani Raghuraman hereby declare that all statements made herein  
of our own knowledge are true and that all statements made on information and belief are  
believed to be true; and further that these statements were made with the knowledge that  
willful false statements and the like so made are punishable by fine or imprisonment, or  
both, under Section 1001 of Title 18 of the United States Code and that such willful false  
statements may jeopardize the validity of the application or any patent issued thereon.

On April 12, 2000, inventors Ramakrishnan, Thambynayagam, and Tilke  
completed and signed the Patent Memorandum which is of record in this application  
having been previously submitted as an Exhibit to the Declaration of David P. Gordon

dated April 20, 2004. All of the work done on this project was done by the inventors in the United States. The Patent Memorandum discloses in considerable detail the methods and apparatus for remote real time oil field management which is the subject of the instant application. Reading the Patent Memorandum reveals that it discloses all that is disclosed and claimed in the instant application. For example, all of the drawings and equations in the instant application can be found in the memorandum dated April 12, 2000.

Referring now to claim 1, the Patent Memorandum discloses a method for remote real time oil field management, comprising:

- a) installing at least one sensor in an oil field (see page 4, Figure 1 Sensors and the discussion of sensors on page 5);
- b) coupling the at least one sensor to a CPU with memory located at the oil field (see page 4, Figure 1 CPU coupled to the sensors via the A/D, the discussion of CPU on page 3, the discussion of sensors on page 5, and the discussion of data storage on page 5);
- c) programming the CPU to collect and store data from the at least one sensor (see the section "Description of an e-well" pages 3-9);
- d) coupling the CPU to the Worldwide Web (see page 4, Figure 1 Communications port and web servers, and the section "Description of an e-well" pages 3-9); and
- e) providing remote access to the data via the Worldwide Web (see the section "Description of an e-well" pages 3-9 and the top of page 3).

With regard to claim 2, the Patent Memorandum also discloses:

f) programming the CPU to at least partially analyze the data (see page 7, section entitled "Data analysis module" and Figure 1 program modules); and

g) providing remote access to the at least partial analysis via the Worldwide Web(see the section "Description of an e-well" pages 3-9 and the top of page 3).

As to claim 3, the Patent Memorandum also discloses:

said step of programming the CPU to at least partially analyze the data includes programming the CPU to determine whether data falls outside programmed bounds (see page 7, section entitled "boundcheck").

As to claim 4, the Patent Memorandum also discloses:

said step of programming the CPU to at least partially analyze the data includes programming the CPU to determine whether the data is following a trend (see page 7, section entitled "trendcheck").

As to claim 5, the Patent Memorandum also discloses:

said step of programming the CPU to at least partially analyze the data includes programming the CPU to determine whether a function of the data falls outside programmed limits (see page 7, section entitled "fncheck").

As to claim 6, the Patent Memorandum also discloses:

said step of programming the CPU to at least partially analyze the data includes programming the CPU to apply a correlation function (see page 8, section entitled "corrcheck" and pages 9 et seq., the section entitled "Appendix A-The correlation example").

As to claim 7, the Patent Memorandum also discloses:

said step of programming the CPU to at least partially analyze the data includes programming the CPU to determine covariance of the data (see page 8, section entitled "covarcheck").

As to claim 8, the Patent Memorandum also discloses:

h) programming the CPU to determine whether the results of the at least partial analysis correspond to an anomaly (see pages 8-9, section entitled "Warning module");  
and

i) programming the CPU to automatically notify one or more persons if the results of the at least partial analysis correspond to an anomaly (see pages 8-9, section entitled "Warning module").

As to claim 9, the Patent Memorandum also discloses:

said step of automatically notifying includes one of sending electronic mail, calling a pager, calling a telephone number, activating an alarm, broadcasting an RF signal, transmitting a signal to a satellite, transmitting a microwave signal, sending a

signal via a LAN, or sending a signal via a WAN (see pages 8-9, section entitled "Warning module").

As to claim 10, the Patent Memorandum also discloses:

j) programming the CPU to perform specified functions if it does not receive an acknowledgement in response to the automatic notification within a programmed time (see page 9, section entitled "Acknowledge module").

As to claim 11, the Patent Memorandum also discloses:

said step of coupling the CPU to the Worldwide Web includes coupling the CPU to a separate Web server (see pages 3 and 4).

As to claim 12, the Patent Memorandum also discloses:

said step of programming the CPU to store data includes programming the CPU to compress the data (see pages 6-7, section entitled "Data compression").

As to claim 13, the Patent Memorandum also discloses:

said step of programming the CPU to compress the data includes decimating data based on age of the data (see pages 6-7, section entitled "Data compression").

As to claim 14, the Patent Memorandum also discloses:

older data is decimated at a higher proportion than newer data (see pages 6-7, section entitled "Data compression").

Claims 15-28 are apparatus claims which correspond to the method claims 1-14. Support for these apparatus claims is the same as the cited support for the method claims 1-14.

Claim 29 is a method claim which depends from claim 6 and is also disclosed in the Patent Memorandum. Claim 29 includes:

said step of programming the CPU to apply a correlation function includes programming the CPU to

i) let the active wells produce or inject with a nearly constant rate;  
and

ii) perform a periodic flowrate pulsing of the wells in a manner whereby the active wells are not pulsed at the same time or with the same amplitude. All of this is discussed at pages 10-12 of the Patent Memorandum.

The Patent Memorandum also discloses claim 30:

said step of programming the CPU to apply a correlation function includes programming the CPU to measure pressure response in the passive wells while pulsing in the active wells. See pages 10-12.

As to claim 31:

said step of programming the CPU to apply a correlation function includes programming the CPU to differentiate the pressure responses. See pages 12-14.



As to claim 32:

said step of programming the CPU to apply a correlation function includes programming the CPU to differentiate the flow rates. See pages 10-11.

As to claim 33:

said step of programming the CPU to apply a correlation function includes programming the CPU to cross correlate differentiated data. See pages 12-14

As to claim 34:

said step of programming the CPU to apply a correlation function includes programming the CPU to determine a discernible peak in the cross correlated differentiated data. See page 12.

As to claim 35:

said step of programming the CPU to apply a correlation function includes programming the CPU to convert the data value at the peak to mobility. See page 12.

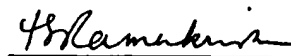
The Patent Memorandum was forwarded by inventor Thambynayagam to the Patent Department of the Assignee on April 13, 2000. See the attached Exhibit A which is a forwarding memorandum.

The invention disclosure was forwarded to David P. Gordon on May 2, 2000 as per a letter from William B. Batzer, a copy of which is attached hereto as Exhibit B.

On or about September 9, 2000, we received a first draft of a patent application based on the Patent Memorandum. See the attached Exhibit C which is a letter dated September 7, 2000 from David P. Gordon forwarding the first draft.

After reviewing the draft, we returned a marked up copy to David P. Gordon on October 23, 2000. See the attached Exhibit D which is a letter to David P. Gordon forwarding the marked up first draft.

Within one week we received a second draft from David P. Gordon and on October 30, 2000, final comments from inventor Raghuraman were transmitted by Fax to David P. Gordon. See the attached Exhibit E which is a fax cover sheet.

  
Terizhandur S. Ramakrishnan

Oct 22, 2004  
Date

Raj Kumar Michael Thambynayagam

                      
Date

  
Peter Gerhard Tilke

10/22/04  
Date

  
Bhavani Raghuraman

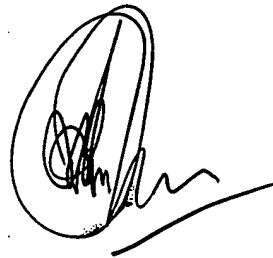
10/26/04  
Date

# Schlumberger

**DATE:** April 13, 2000  
**TO:** Patents  
**FROM:** Michael Thambynayagam  
**SUBJECT:** Patent Memorandum

**CC:**  
Library

Attached is an original Patent Memorandum entitled "m2m e-portal for OFS: A machine-to-man reservoir management system through real time monitoring, strategic alert, diagnosis, control and reporting" written by T.S. Ramakrishnan, Michael Thambynayagam and Peter Tilke and dated April 12, 2000.



KS		DG	RS	WBB	✓
SOR PATENTS					
APR 13					
FILE 60.1421				CC:	
DOCK'D MT-W					

EXHIBIT A

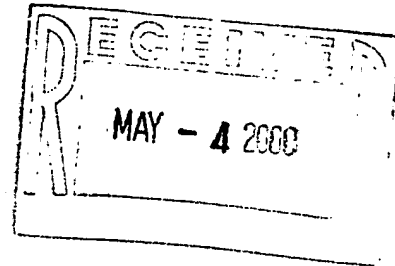
Intellectual Property Law Department  
Schlumberger-Doll Research  
Old Quarry Road  
Ridgefield, CT 06877-4108  
Phone: (203) 431-5506  
Fax: (203) 431-5640  
e-mail: batzer@ridgefield.sdr.slb.com

**Schlumberger**

***Via First Class***

May 2, 2000

David P. Gordon, Esq.  
65 Woods End Road  
Stamford, CT 06905



Re: New U.S. Patent Application for T. S. Ramakrishnan,  
R. K. M. Thambynayagam, and Peter Tilke  
for "m2m e-portal for OFS: A Machine-to-man Reservoir management  
System Through Real Time Monitoring, Strategic Alert, Diagnosis,  
Control and Reporting"  
(Our File 60.1421) *SLR-059*

Dear David:

As a follow-up to our phone conversation, we would like you to prepare a draft patent application for the above-identified disclosure.

Enclosed is a copy of the Patent Memorandum and the four references listed on page 19 of this Patent Memorandum.

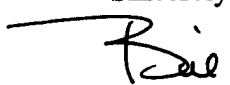
Please feel free to contact the inventors directly to discuss the case. The inventors' phone numbers are listed below:

T. S. Ramakrishnan (Rama), extension 5239  
R.K.M. Thambynayagam (Michael), extension 5249  
P. Tilke (Peter), extension 5513

*Primary Contact* →

I look forward to receiving a copy of the draft application.

Sincerely,

  
William B. Batzer

enclosures

cc: T.S. Ramakrishnan  
M. Thambynayagam  
P. Tilke

EXHIBIT B

David P. Gordon  
Admitted in NY and CT

David S. Jacobson  
Admitted in NY and NJ

*Of Counsel:*  
Thomas A. Gallagher  
Admitted in NY and NJ

*Law Offices of*  
**David P. Gordon**

65 Woods End Road  
Stamford, Connecticut 06905  
Tel: 203-329-1160  
Fax: 203-329-1180

**Intellectual Property Law**

**Patents, Trademarks,  
Copyrights, Litigation**

September 7, 2000

Mr. William Batzer  
Patent Department  
Schlumberger-Doll Research  
Old Quarry Road  
Ridgefield, CT 06877-4108

Dear Bill:

Re: Your ref.: 60.1421; My Case SDR-059

Please find enclosed a copy of a first draft for the patent application in the above-referenced case. Please review the draft carefully, and have the inventors do the same, feeling free to make comments, corrections, suggestions, etc. as you see fit. In reviewing the draft, please make sure that the application is accurate and complete. In addition, please note the inserted questions and/or requests for information, and provide answers for same. After you have reviewed and marked up the draft, please make a copy and return the marked copy to me. Upon receipt of the marked up draft, I will then begin working on the final draft.

If you have any questions, please feel free to call.

Very truly yours,



David P. Gordon

DPG/ma  
Enclosures

EXHIBIT C

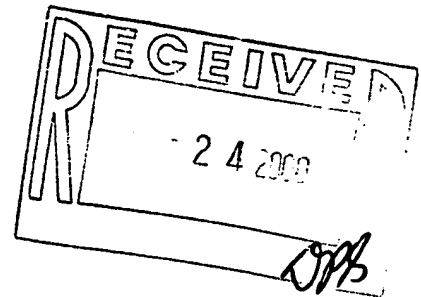
Intellectual Property Law Department  
Schlumberger-Doll Research  
Old Quarry Road  
Ridgefield, CT 06877-4108  
Phone: (203) 431-5507  
Fax: (203) 431-5640  
e-mail: schreiber@ridgefield.sdr.slb.com

**Schlumberger**

***Via First Class***

October 23, 2000

David P. Gordon, Esq.  
65 Woods End Road  
Stamford, CT 06905



Re: New U.S. Patent Application of Ramakrishnan et al.  
for "METHODS AND APPARATUS FOR REMOTE  
REAL TIME OIL FIELD MANAGEMENT"  
(Our File 60.1421) (Your File SDR-059)

Dear David:

Enclosed is the marked-up draft from Rama for the above-identified patent application. Rama discussed these revisions with Michael Thambynayagam and Peter Tilke, and they are in agreement with Rama's remarks.

Rama advised me that there is another inventor, Bhavani Raghuraman, who was inadvertently left off the patent memorandum and should be added to the list of inventors for this application. Bhavani's inventor information is as follows:

Bhavani Raghuraman  
12 Indian Rock Place  
Wilton, CT 06847  
Citizen of U.S.A.

Bhavani is reviewing your draft application, and Rama will let you know if Bhavani has any additional comments to add.

Sincerely yours,

  
Ruth A. Schreiber

/rs  
enclosures

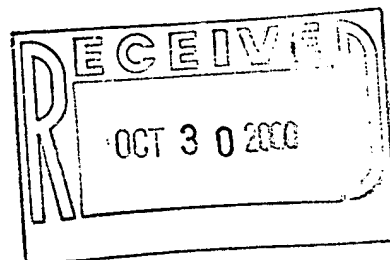
cc: W. B. Batzer  
T. S. Ramakrishnan  
B. Raghuraman

EXHIBIT D

Intellectual Property Law Department  
Schlumberger-Doll Research  
Old Quarry Road  
Ridgefield, CT 06877-4108  
Phone: (203) 431-5507  
Fax: (203) 431-5640  
e-mail: schreiber@ridgefield.adr.slb.com

**Schlumberger****FACSIMILE HEADER SHEET****Date:** October 30, 2000**Transmitted From:**

Ruth Schreiber  
Schlumberger-Doll Research  
Phone number: (203) 431-5507  
Facsimile number: (203) 431-5640

**Transmitted To:**

David Gordon, Esq.  
Phone number: 203-329-1160  
Facsimile number: 203-329-1180

**Transmission Data:**

This transmission should include 3 pages, including this page. If any problem associated with this transmission occurs, please contact Ruth Schreiber at (203) 431-5507.

**Message:**

**Re: Our File 60.1421  
Your File SDR-059**

David,

As a result of Bhavani Raghuraman's review of your draft application, please find Bhavani's e-mail message and editing comments for the above-identified file.

With best regards,

*Ruth Schreiber*  
Ruth Schreiber

**EXHIBIT E**



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: T. S. Ramakrishnan et al.

Group Art Unit: 2125

Serial No.: 09/705,674

Examiner: S.R. Garland

Filed: 03 NOV 2000

Attorney Docket: SDR-059 (60.1421)

Title: METHODS AND APPARATUS FOR REMOTE REAL TIME OIL FIELD MANAGEMENT

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*David P. Gordon*

*Oct 26, 2004*

David P. Gordon

Date

Honorable Commissioner for Patents  
Alexandria, VA 22313

Sir:

DECLARATION OF THE INVENTORS UNDER 37 C.F.R. §1.131

We, Terizhandur S. Ramakrishnan, Raj Kumar Michael Thambynayagam, Peter Gerhard Tilke, and Bhavani Raghuraman hereby declare that all statements made herein of our own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

On April 12, 2000, inventors Ramakrishnan, Thambynayagam, and Tilke completed and signed the Patent Memorandum which is of record in this application having been previously submitted as an Exhibit to the Declaration of David P. Gordon



dated April 20, 2004. All of the work done on this project was done by the inventors in the United States. The Patent Memorandum discloses in considerable detail the methods and apparatus for remote real time oil field management which is the subject of the instant application. Reading the Patent Memorandum reveals that it discloses all that is disclosed and claimed in the instant application. For example, all of the drawings and equations in the instant application can be found in the memorandum dated April 12, 2000.

Referring now to claim 1, the Patent Memorandum discloses a method for remote real time oil field management, comprising:

- a) installing at least one sensor in an oil field (see page 4, Figure 1 Sensors and the discussion of sensors on page 5);
- b) coupling the at least one sensor to a CPU with memory located at the oil field (see page 4, Figure 1 CPU coupled to the sensors via the A/D, the discussion of CPU on page 3, the discussion of sensors on page 5, and the discussion of data storage on page 5);
- c) programming the CPU to collect and store data from the at least one sensor (see the section "Description of an e-well" pages 3-9);
- d) coupling the CPU to the Worldwide Web (see page 4, Figure 1 Communications port and web servers, and the section "Description of an e-well" pages 3-9); and
- e) providing remote access to the data via the Worldwide Web (see the section "Description of an e-well" pages 3-9 and the top of page 3).

With regard to claim 2, the Patent Memorandum also discloses:

f) programming the CPU to at least partially analyze the data (see page 7, section entitled "Data analysis module" and Figure 1 program modules); and

g) providing remote access to the at least partial analysis via the Worldwide Web(see the section "Description of an e-well" pages 3-9 and the top of page 3).

As to claim 3, the Patent Memorandum also discloses:

said step of programming the CPU to at least partially analyze the data includes programming the CPU to determine whether data falls outside programmed bounds (see page 7, section entitled "boundcheck").

As to claim 4, the Patent Memorandum also discloses:

said step of programming the CPU to at least partially analyze the data includes programming the CPU to determine whether the data is following a trend (see page 7, section entitled "trendcheck").

As to claim 5, the Patent Memorandum also discloses:

said step of programming the CPU to at least partially analyze the data includes programming the CPU to determine whether a function of the data falls outside programmed limits (see page 7, section entitled "fncheck").

As to claim 6, the Patent Memorandum also discloses:

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As to claim 7, the Patent Memorandum also discloses:

said step of programming the CPU to at least partially analyze the data includes programming the CPU to determine covariance of the data (see page 8, section entitled "covarcheck").

As to claim 8, the Patent Memorandum also discloses:

h) programming the CPU to determine whether the results of the at least partial analysis correspond to an anomaly (see pages 8-9, section entitled "Warning module");  
and

i) programming the CPU to automatically notify one or more persons if the results of the at least partial analysis correspond to an anomaly (see pages 8-9, section entitled "Warning module").

As to claim 9, the Patent Memorandum also discloses:

said step of automatically notifying includes one of sending electronic mail, calling a pager, calling a telephone number, activating an alarm, broadcasting an RF signal, transmitting a signal to a satellite, transmitting a microwave signal, sending a

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As to claim 11, the Patent Memorandum also discloses:

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As to claim 12, the Patent Memorandum also discloses:

said step of programming the CPU to store data includes programming the CPU to compress the data (see pages 6-7, section entitled "Data compression").

As to claim 13, the Patent Memorandum also discloses:

said step of programming the CPU to compress the data includes decimating data based on age of the data (see pages 6-7, section entitled "Data compression").

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Claims 15-28 are apparatus claims which correspond to the method claims 1-14. Support for these apparatus claims is the same as the cited support for the method claims 1-14.

Claim 29 is a method claim which depends from claim 6 and is also disclosed in the Patent Memorandum. Claim 29 includes:

said step of programming the CPU to apply a correlation function includes programming the CPU to

i) let the active wells produce or inject with a nearly constant rate;

and

ii) perform a periodic flowrate pulsing of the wells in a manner

whereby the active wells are not pulsed at the same time or with the same amplitude. All of this is discussed at pages 10-12 of the Patent Memorandum.

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As to claim 31:

said step of programming the CPU to apply a correlation function includes programming the CPU to differentiate the pressure responses. See pages 12-14.

As to claim 32:

said step of programming the CPU to apply a correlation function includes programming the CPU to differentiate the flow rates. See pages 10-11.

As to claim 33:

said step of programming the CPU to apply a correlation function includes programming the CPU to cross correlate differentiated data. See pages 12-14

As to claim 34:

said step of programming the CPU to apply a correlation function includes programming the CPU to determine a discernible peak in the cross correlated differentiated data. See page 12.

As to claim 35:

said step of programming the CPU to apply a correlation function includes programming the CPU to convert the data value at the peak to mobility. See page 12.

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\_\_\_\_\_  
Terizhandur S. Ramakrishnan

\_\_\_\_\_  
Date

  
\_\_\_\_\_  
Raj Kumar Michael Thambynayagam

25/10/04  
\_\_\_\_\_  
Date

\_\_\_\_\_  
Peter Gerhard Tilke

\_\_\_\_\_  
Date

\_\_\_\_\_  
Bhavani Raghuraman

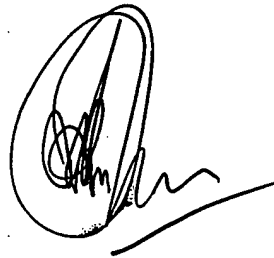
\_\_\_\_\_  
Date

# Schlumberger

**DATE:** April 13, 2000  
**TO:** Patents  
**FROM:** Michael Thambynayagam  
**SUBJECT:** Patent Memorandum

**CC:**  
Library

Attached is an original Patent Memorandum entitled "m2m e-portal for OFS: A machine-to-man reservoir management system through real time monitoring, strategic alert, diagnosis, control and reporting" written by T.S. Ramakrishnan, Michael Thambynayagam and Peter Tilke and dated April 12, 2000.



KS		DG		RS	WBB	✓
SOR PATENTS						
APR 13						
FILE 60.1421				CC:		
DOCK'D MT-W						

EXHIBIT A



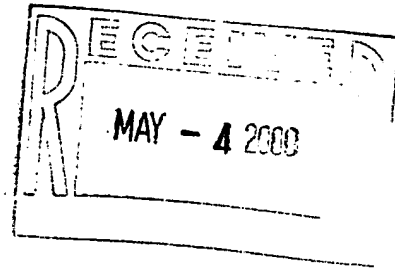
Intellectual Property Law Department  
Schlumberger-Doll Research  
Old Quarry Road  
Ridgefield, CT 06877-4108  
Phone: (203) 431-5506  
Fax: (203) 431-5640  
e-mail: batzer@ridgefield.sdr.slb.com

**Schlumberger**

***Via First Class***

May 2, 2000

David P. Gordon, Esq.  
65 Woods End Road  
Stamford, CT 06905



Re: New U.S. Patent Application for T. S. Ramakrishnan,  
R. K. M. Thambynayagam, and Peter Tilke  
for "m2m e-portal for OFS: A Machine-to-man Reservoir management  
System Through Real Time Monitoring, Strategic Alert, Diagnosis,  
Control and Reporting"  
(Our File 60.1421) *SDR-059*

Dear David:

As a follow-up to our phone conversation, we would like you to prepare a draft patent application for the above-identified disclosure.

Enclosed is a copy of the Patent Memorandum and the four references listed on page 19 of this Patent Memorandum.

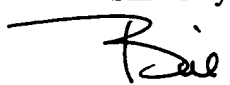
Please feel free to contact the inventors directly to discuss the case. The inventors' phone numbers are listed below:

T. S. Ramakrishnan (Rama), extension 5239  
R.K.M. Thambynayagam (Michael), extension 5249  
P. Tilke (Peter), extension 5513

*Primary Contact* ←

I look forward to receiving a copy of the draft application.

Sincerely,

  
William B. Batzer

enclosures

cc: T.S. Ramakrishnan  
M. Thambynayagam  
P. Tilke

EXHIBIT B

David P. Gordon  
Admitted in NY and CT

David S. Jacobson  
Admitted in NY and NJ

*Of Counsel:*  
Thomas A. Gallagher  
Admitted in NY and NJ

*Law Offices of*  
**David P. Gordon**

65 Woods End Road  
Stamford, Connecticut 06905  
Tel: 203-329-1160  
Fax: 203-329-1180

**Intellectual Property Law**

**Patents, Trademarks,  
Copyrights, Litigation**

September 7, 2000

Mr. William Batzer  
Patent Department  
Schlumberger-Doll Research  
Old Quarry Road  
Ridgefield, CT 06877-4108

Dear Bill:

Re: Your ref.: 60.1421; My Case SDR-059

Please find enclosed a copy of a first draft for the patent application in the above-referenced case. Please review the draft carefully, and have the inventors do the same, feeling free to make comments, corrections, suggestions, etc. as you see fit. In reviewing the draft, please make sure that the application is accurate and complete. In addition, please note the inserted questions and/or requests for information, and provide answers for same. After you have reviewed and marked up the draft, please make a copy and return the marked copy to me. Upon receipt of the marked up draft, I will then begin working on the final draft.

If you have any questions, please feel free to call.

Very truly yours,

*David P. Gordon/ma*

David P. Gordon

DPG/ma  
Enclosures

EXHIBIT C

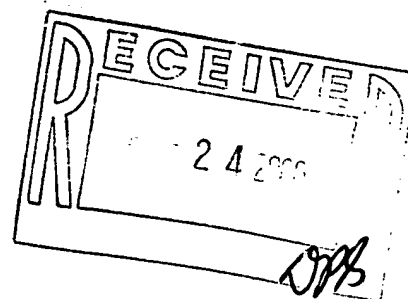
Intellectual Property Law Department  
Schlumberger-Doll Research  
Old Quarry Road  
Ridgefield, CT 06877-4108  
Phone: (203) 431-5507  
Fax: (203) 431-5640  
e-mail: schreiber@ridgefield.sdr.slb.com

**Schlumberger**

*Via First Class*

October 23, 2000

David P. Gordon, Esq.  
65 Woods End Road  
Stamford, CT 06905



Re: New U.S. Patent Application of Ramakrishnan et al.  
for "METHODS AND APPARATUS FOR REMOTE  
REAL TIME OIL FIELD MANAGEMENT"  
(Our File 60.1421) (Your File SDR-059)

Dear David:

Enclosed is the marked-up draft from Rama for the above-identified patent application. Rama discussed these revisions with Michael Thambynayagam and Peter Tilke, and they are in agreement with Rama's remarks.

Rama advised me that there is another inventor, Bhavani Raghuraman, who was inadvertently left off the patent memorandum and should be added to the list of inventors for this application. Bhavani's inventor information is as follows:

Bhavani Raghuraman  
12 Indian Rock Place  
Wilton, CT 06847  
Citizen of U.S.A.

Bhavani is reviewing your draft application, and Rama will let you know if Bhavani has any additional comments to add.

Sincerely yours,

*Ruth A. Schreiber*  
Ruth A. Schreiber

/rs  
enclosures

cc: W. B. Batzer  
T. S. Ramakrishnan  
B. Raghuraman

EXHIBIT D

Intellectual Property Law Department  
Schlumberger-Doll Research  
Old Quarry Road  
Ridgefield, CT 06877-4108  
Phone: (203) 431-5507  
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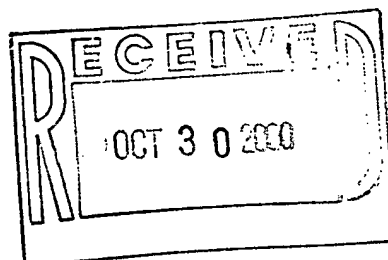
**Schlumberger**

**FACSIMILE HEADER SHEET**

**Date:** October 30, 2000

**Transmitted From:**

Ruth Schreiber  
Schlumberger-Doll Research  
Phone number: (203) 431-5507  
Facsimile number: (203) 431-5640



**Transmitted To:**

David Gordon, Esq.  
Phone number: 203-329-1160  
Facsimile number: 203-329-1180

**Transmission Data:**

This transmission should include 3 pages, including this page. If any problem associated with this transmission occurs, please contact Ruth Schreiber at (203) 431-5507.

**Message:**

**Re: Our File 60.1421  
Your File SDR-059**

David,

As a result of Bhavani Raghuraman's review of your draft application, please find Bhavani's e-mail message and editing comments for the above-identified file.

With best regards,

*Ruth Schreiber*  
Ruth Schreiber

EXHIBIT E